the courses is entrusted to female nurses, who have rendered excellent service.

The following is the course of dietetics as at present conducted at the Hospital Corps School of Instruction, Washington Barracks:

Liquid diet: milk, sterilized, albuminized, and peptonized, whey, junket, milk punch, gruels of oatmeal, farina, rice, hard bread, and arrowroot. Drinks: lemonade, orangeade, egg nog, lemonade sherry and egg, toast water, coffee, and tea. Broths: beef juice, beef tea bottled, beef tea with hydrochloric acid; beef, mutton, and chicken broth.

Light diet: canned soups, toast, oatmeal, farina, rice, rice flour, preparations of gelatin, lemon, coffee, and wine jellies; dried, canned, and fresh fruits; various modes of cooking eggs, potatoes, beef, and chicken.

Hospital stores: beef extract, malted milk, chocolate, arrowroot, and condensed milk.

The ration: field, travel, and emergency; modes of preparing hard bread, bacon, canned roast and salt beef, baked beans, peameal, and tomatoes.

The course comprises fifteen lessons of one hour each, and covers three weeks. The class is divided into squads of ten to eighteen men each, the number of squads varying with the strength of the command, and each squad is subdivided into sections of three or four men each for purposes of instruction. If more than fifty men are present, four squads are formed, and the hours are rotated according to the accompanying schedule, which also exhibits the general course of instruction.

Days.
- 1: Lesson 1.—Hospital corps pouch, orderly pouch, first-aid packet contents and uses.
- 2: Lesson 2.—Hospital ward, cleanliness and order, record books, property, ventilation, temperature, temperature charts.
- 2: Lesson 3.—Anatomy of the skeleton.
- 2: Lesson 4.—The patient, observation of symptoms, observance of surgeon's directions, feeding and bathing, administration of medicine.
- 3: Lesson 5.—Fractures and their treatment.
- 3: Lesson 6.—Disinfection and antiseptics, preparation of disinfectant and antiseptic solutions.
- 4: Lesson 7.—Joints and dislocations, methods of reducing dislocations.
- 4: Lesson 8.—Antiseptic treatment of wounds.
- 5: Review two hours.
- 6: Lesson 10.—Emergencies; sprains, frost-bites, and burns.
- 6: Lesson 11.—The circulatory system.
- 7: Lesson 12.—Emergencies; drowning, sunstroke, and heat exhaustion.
- 7: Lesson 13.—The circulatory system (concluded).
- 8: Lesson 14.—Hemorrhages and their treatment. The tourniquet.
- 8: Lesson 15.—The respiratory system.
- 9: Lesson 16.—General first aid. The triangular bandage.
- 9: Lesson 17.—The respiratory system (concluded).
- 10: Review two hours.
- 11: Lesson 19.—General first aid. Methods of carrying the wounded.
- 11: Lesson 20.—The alimentary system.
- 12: Lesson 21.—Contents of medical and surgical chests.
- 12: Lesson 22.—The alimentary system (concluded).
- 13: Lesson 23.—Contents of medical and surgical chests (concluded).
- 13: Lesson 24.—The fundamental bandages.
- 14: Lesson 25.—Contents of field operating case. Care and disinfection of instruments.
- 14: Lesson 26.—The fundamental bandages (concluded).
- 15: Review two hours.

In the strictest sense of the term a hospital corps school of instruction is an institution in which members of the hospital corps are received primarily as pupils, such practical work as they may do in connection with the sick being subsidiary, and to be regarded as a part of their education. The small post at which each member of the hospital corps detachment has his regular daily task and receives only an hour or more of systematic theoretical and practical teaching each week represents the other extreme as regards instruction. But between these two extremes are the large hospitals at which are collected a numerous body of hospital corps men who have well-defined hours of duty and of rest, so that a considerable detachment can be brought together for instruction every day. At such institutions much good work has been accomplished in the education of the members of the hospital corps. A school was established in the Second Army Corps in 1898 at Camp Alger and afterward at Augusta, Ga., at which about two hundred and fifty hospital corps men were trained and at the completion of their course given diplomas in due form at public graduation exercises. In the Seventh Army Corps the large hospital corps detachments at division hospitals were organized into companies of about sixty men each, and each company was given daily instruction in drill and in first aid when the number of sick permitted. When the hospital known as the United States Military Hospital No. 1, at Havana, was opened a large number of uninstructed recruits were received, the great majority of them entirely ignorant of their duties as members of the hospital corps and as soldiers. The chief surgeon directed the establishment of the school in connection with the hospital at which was given a course of discipline and instruction which resulted, to quote his words, "in giving us as soldierly, prompt, and well-disciplined a body of men as I have ever seen in the service," and in demonstrating that "the medical officers may take raw recruits and make them well-drilled and efficient soldiers as well as proficient in special duties of the hospital corps."

As showing what may be accomplished in the heat of a Cuban summer by a zealous and efficient medical officer, a more detailed report of the course of instruction is of interest.

In the period from June 15, 1899, to November 25, 1899, one hundred and forty-seven privates and seven acting hospital stewards were instructed in this school. Instruction was given to all who could be spared from the care of the sick by daily drills and lectures for five days in the week in detachment drill, litter drill, ambulance drill, first aid, ward work, care of animals, nursing, bandaging, cooking and sanitary methods, and tent drill. Also general instruction with a view to preparation for field service. Numerous lectures were given on nursing, especial stress being laid upon the preparation of the operator, patient, instruments, dressings, tables and room before an operation, asepsis and antisepsis being thoroughly explained, and on the treatment of hemorrhages, gunshot wounds, the nursing of typhoid fever, etc. The men were detailed to the wards in succession, and were thus enabled to put theory into practice. An especial feature was the tent drill. "In the tent drill the men became very proficient, pitching tents for a field hospital, putting up the beds, filling the bedsacks with hay, making the beds, putting in bedside tables and chairs, etc. The time occupied from the command 'Pitch hospital tents, march!' (the tentage being on wagons, and the men detailed as patients lying on the ground) until patients were in bed in the furnished tents, being twenty minutes for the first tent, the others being completed almost immediately after, in quick succession, the time varying from twenty-one to twenty-six minutes; fires were made on the ground and several gallons of water were boiling in seventeen minutes from the time the command 'March!' was given and three minutes before the patients were in bed.

"At the command 'Strike tents, march!' the patients were very carefully carried out and laid upon the grass, the blankets folded, bedsacks emptied and folded, beds folded, tents struck and loaded on the wagons, the time occupied from the command 'March!' until the wagons were ready to drive off being fourteen minutes. In these drills the intervals between the tents were perfect, the tents perfectly erected, and the tent pegs, as well as the tents themselves, carefully aligned."

A school was also established for non-commissioned officers in which two hospital stewards, seven acting hospital stewards, and nine privates, all of whom subsequently passed the examination for detail as acting hospital steward, were instructed. The hours of instruction in this school were as follows:

- 7 A.M. to 8 A.M. and 9 to 10 A.M.: Drill.
- 10 to 11:30 A.M.: Instruction in dispensary.
- 1 P.M. to 2 P.M.: Lecture.
- 2 P.M. to 3:30 P.M.: Instruction in office.
- 4 P.M. to 5 P.M.: Drill.
- 7 P.M. to 9:30 P.M.: Study and quiz.

Notwithstanding the hard work done, the sick report of the hospital corps company was exceedingly low, being for considerable periods less than two per cent. of those present. A similar school has been under operation with excellent results at the Third Reserve Hospital at Manila.

The surgeon of this hospital reports as follows under date of December 23, 1899, as to the duties and the instruction of the hospital corps detachment:

"The present personnel of the institution consists of 4 officers, 4 non-commissioned officers, 40 privates, 263 patients, 8 native Tagalog laborers, and 7 Chinese laundrymen. The following are the departments with the number attached to each:

- Baths and plumbing (1 pvt.).
- Carpenter shop (1).
- Dark room.
- Dining service (8).
- Dispensary (1 n.-c. o., 1 pvt.).
- Library.
- Linen and laundry (1 pvt., 7 Chinese).
- Nurses (6).
- Mail (1).
- Office (1 n.-c. o., 2 pvts.)
- Driver (1).
- Filters and boilers (1).
- Guard.
- Kitchen (7).
- Light diet service (2).
- Orderlies (2).
- Provost sergeant (1).
- Stables (1).
- Trumpeters.
- Ward masters (5).

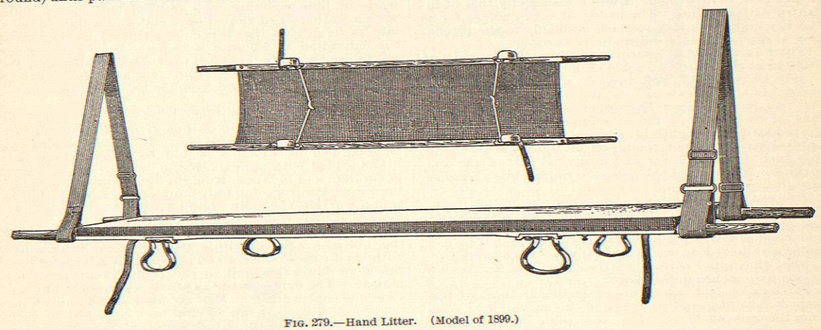

Fig. 279.—Hand Litter. (Model of 1899.)

"The duties of the four non-commissioned officers are as follows: 1. Superintendent of hospital; in charge of property. 2. In charge of office and records. 3. In charge of dispensary. 4. Commissary.

"In addition to its first, and always paramount object, the care of the sick, another important function of the hospital is the instruction of the enlisted men of the hospital corps. This is systematically carried on in four directions. The whole hospital is regarded as a school, and each department is put in charge of a soldier, who is held responsible for its condition. His orders are written in the plainest language, verbal ones being avoided as much as possible. At the end of each month an entire change takes place, so that by means of a regular rotation every man becomes acquainted with the working of the entire system. By this means no man is allowed to stagnate in one place to the detriment of his general efficiency as a sanitary soldier.

"Lectures, or more properly, informal didactic instruction, supplemented by questions and answers, are held five times weekly, the present course being as follows:

"Mondays—Discipline, regulations, and drill.

"Tuesdays—Minor surgery and first aid.

"Wednesdays—Nursing and ward management.

ORDER OF EXERCISES, COMPANY OF INSTRUCTION, HOSPITAL CORPS, WASHINGTON BARRACKS, D. C.

	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
6:30–7:15.	General police.	General police.	General police.	General police.	General police.	
7:25–7:40.	Setting up exercises.	Setting up exercises.	Setting up exercises.	Setting up exercises.	Setting up exercises.	General police.
8:00–9:00.	Cooking squad, 1 ...	Cooking squad, 4	Cooking squad, 3	Cooking squad, 2	Cooking squad, 1 ...	
	Drill squads, 2, 3, 4 ..	Drill squads, 1, 2, 3 ..	Drill squads, 1, 2, 4 ..	Drill squads, 1, 3, 4 ..	Drill squads, 2, 3, 4 ..	
9:15–10:15.	Cooking squad, 2 ..	Cooking squad, 1 ...	Cooking squad, 4	Cooking squad, 3	Cooking squad, 2	Inspection.
	Study squads, 1, 3, 4.	Study squads, 2, 3, 4	Study squads, 1, 2, 3.	Study squads, 1, 2, 4.	Study squads, 1, 3, 4 .	
10:30–11:30.	Anatomy and first aid	Anatomy and first aid	Anatomy and first aid	Anatomy and first aid	Anatomy and first aid	Articles of war.
1:00–2:00.	Nursing and hygiene.	Nursing and hygiene.	Nursing and hygiene.	Nursing and hygiene.	Nursing and hygiene.	
2:15–3:15.	Cooking squad, 3	Cooking squad, 2	Cooking squad, 1	Cooking squad, 4 ...	Cooking squad, 3 .	
	Study squads, 1, 2, 4.	Study squads, 1, 3, 4.	Study squads, 2, 3, 4.	Study squads, 1, 2, 3.	Study squads, 1, 2, 4 .	
3:30–4:30.	Cooking squad, 4	Cooking squad, 3	Cooking squad, 2	Cooking squad, 1	Cooking squad, 4	
	Study squads, 1, 2, 3.	Study squads, 1, 2, 4.	Study squads, 1, 3, 4.	Study squads, 2, 3, 4.	Study squads, 1, 2, 3..	

"Thursdays—Materia medica and practical dispensary work.

"Fridays—Clerical work, the ration and its management.

"This course is varied from time to time, as seems desirable, examinations are held, and men showing sufficient proficiency are recommended for promotion.

"Drill (foot, setting-up, and litter) is held five times a week, the hour being immediately after reveille. As a means of instilling discipline, as necessary physical exercise, and especially for the formation of the habit of instant and soldierly obedience, this portion of the instruction is considered indispensable, and no one is excused from it unless he be upon sick report. Regular roll calls are also considered necessary.

"The last form of instruction is not very tangible, but is of no small moment—the formation of an *esprit de corps* in the detachment. For this purpose the men are encouraged to form an association of their own, the squad room is furnished with electric lights and a score of periodicals, an interest is manifested in their baseball club and athletic sports, and the men are given to understand that their detachment is an organization well meriting pride in its soldierly efficiency."

The hospital corps private receives the same instruction in the elements of drill, such as facings, salutes, the setting-up exercises, etc., as other soldiers. The detachment drill without litters is essentially that of infantry without arms. The utility of such drill, so far as the hospital corps is concerned, is chiefly in the promotion of discipline and of a soldierly carriage.

The following is a description of the litter (model of 1899) as at present constructed (Fig. 279).

Side poles are of well-dressed, straight-grained ash, seven feet six inches long, one and one half inches wide, and two inches deep. The upper part of the outer surface of each pole at the attachment of the canvas is shaved away one-eighth of an inch. The surface of the applied canvas and of the heads of the nails attaching it is flush with the lower and unshaved part of the said surface. The ends of the poles are rounded into handles nine inches in length.

The canvas is of strong, twelve-ounce cotton duck, dyed fast dark brown, six feet two inches long by two feet two inches wide. At each end an inch is turned under and sewed down, and at each side an inch is turned under and tacked to the shaved surface of the side bar, so that the upper surface of the canvas is six feet by twenty-two inches in the clear.

The legs or feet, which are of malleable iron, stirrup shaped, raise the under surface of the poles four inches from the ground level. The pole plate of each leg is three and three-eighths inches long, and has on the outer part of the end toward the mid-length of the pole, a projection to keep the braces in position when the poles are approximated. The plate is turned up at the sides one quarter of an inch to grasp the pole which is here countersunk, so that the metal is flush with its outer surface. The pole plate has two apertures: one, three-eighths of an inch in diameter for the bolt on which the brace or traverse iron plays, the other, three-eighths of an inch in diameter between the blades of the stirrup for the bolt which secures the whole to the pole. The loop of the stirrup is one and three-quarters inches wide near the pole plate, widening out to three and five-eighths inches at its widest part, about three-quarters of an inch from the footplate. The blades forming the loop are each seven-eighths of an inch broad at the neck, expanding to one and seven-eighths inches where they conjoin to form the footplate, which is somewhat convex in every direction, to give a broad support.

The braces are of steel forging, each consisting of two pieces playing by their outer ends on the bolt in their respective pole plates and hinged by a bolt at the junction of their inner ends. Each piece is formed of a bar of steel forging one-half an inch wide and five-eighths of a inch deep. The outer end is flattened to facilitate movement on the pole plate. The inner end of one projects about one inch beyond that of the other, which it embraces, thus strengthening the joint when the braces are on the stretch, and this joint is fenestrated on the back to prevent choking by mud and dirt. The head of the bolt or pivot by which the brace is attached to pole plates is one inch in diameter and one-eighth of an inch thick. From the centre of this pole-plate bolt to the centre of the rivet which hinges the pieces, each measures ten and a quarter inches, and the whole when on the stretch makes the litter twenty-two inches wide from outside to outside of the canvas-covered bars. When the litter is closed the braces project lengthwise toward the centre of the litter immediately beneath the approximated poles.

The fastening for the closed litter is provided by means of two leather straps, eleven inches long and three-quarters of an inch wide, one attached to the under surface of one pole, one inch toward the handle from the pole plate, the other to the corresponding part of the opposite end of the other pole. When the litter is open the strap is under the pole and fastened to a stud, but when the litter is closed the strap is passed around the two poles from its point of attachment on the one pole to a stud in the corresponding part of the other.

The weight of the litter is twenty pounds.

The regulation litter sling which is issued to each private of the hospital corps as a part of his equipment is made of blue webbing two and one-half inches wide, with a leather-lined loop at each end, and a slide to regulate its length, so that it can be adjusted to the size of the individual to whom it is issued. During drill when not in use the sling is carried over the shoulders and the loops are secured under the belt; when the litter is to be lifted the loops are drawn from the belt and slipped over the handles of the litter.

In the drill with the open litter the litters may be marched by the usual commands given to infantry, substituting "litters" for "fours." Military situations can be imagined in which it would be of advantage that litters loaded with patients should be marched in line or in column, and in which it might be necessary to change the formation from line to column or the reverse; but in actual warfare the more complicated evolutions will almost never be needed.

The chief object of litter drill is to familiarize each of the four men who constitute the individual litter squad with his duties so that he can perform them without confusion or hesitation and to the best advantage of the patient. The drill is made as nearly as possible like service in actual warfare. Men are used as "dummy" patients. A diagnosis tag having been attached to their clothing to indicate the nature and location of the injury to be dressed, before loading, they are directed to take positions such as would be expected on the battlefield. At the command "Search for wounded!" each leader assumes charge of his squad and proceeds independently.

The members of the litter squad are numbered from one to four consecutively. The litter when closed is carried on the shoulder of No. 3, who acts as rear bearer of the open litter, No. 2 being the front bearer. The positions of Nos. 1 and 4 are opposite the centre of the litter on the right and left respectively. When approaching a patient, they run in advance of the litter, investigate the nature of the injury, and apply splints, check hemorrhage, or render such other service as the nature of the case may demand. When the patient has been placed upon the litter, they resume their positions opposite the centre of the litter. They relieve Nos. 2 and 3 as bearers when the latter are fatigued. The change of bearers may be effected, if necessary, without interrupting the march. No. 1 has command of the squad, whatever his position with respect to the litter may be.

While the loaded litter is usually carried by two bearers, when the ground is unusually difficult or when obstacles must be surmounted it is carried by all four of the bearers, one man at each handle. In ascending stairs or steep inclines the front bearer retains his hold

upon the handles while two bearers support the rear handles, raising them so that the litter will remain horizontal. In descending stairs, two bearers similarly support the front handles. The patient is generally carried feet foremost; in ascending a hill he is carried head foremost; in descending, feet foremost, unless there be a fracture of the lower extremity, in which case his position is reversed to prevent pressure upon the injured part. In carrying patients the bearers are instructed to break step, that is, the rear man steps off with the right, the front man with the left foot, the object of this being to prevent the swinging of the litter, which takes place when the bearers keep step. This is obviated still more effectually by the so-called single step, which is, however, acquired with some difficulty. The front bearer steps off with his left foot, the rear bearer follows with his right an instant later and before the front bearer has planted his right. The right foot of the front bearer next touches the ground and is immediately followed by the left of the rear bearer.

The method of placing the patient on a litter by means of four bearers moves the patient with the minimum exertion on his part and with the maintenance of a strictly recumbent position.

The patient lying upon the ground, three bearers are directed to take station upon his right or left side; the choice of sides being determined by the nature of the injury or the relative ease of access. One bearer takes position at the shoulder, a second at the hip, a third at or slightly above the ankle; the fourth bearer stands at the hip on the opposite side of the patient. The bearers kneel on the right knee if on the right of the patient, and on the left knee if on his left. The bearer at the shoulder passes his left arm (if on the left of the patient, his right arm) under the patient's neck to the opposite axilla and secures a firm hold, his arm supporting the patient's neck. The other hand supports the nearer shoulder. The bearers at the hips pass their hands beneath the back and the upper part of the thighs, not locking hands. The bearer at the ankles supports the legs with both hands.

At the word of command the patient is then gently lifted by all the bearers and placed on the knees of the first three bearers; the bearer on the free side brings the litter and places it on the ground under the patient and against the ankles of the kneeling bearers (Fig. 280). He

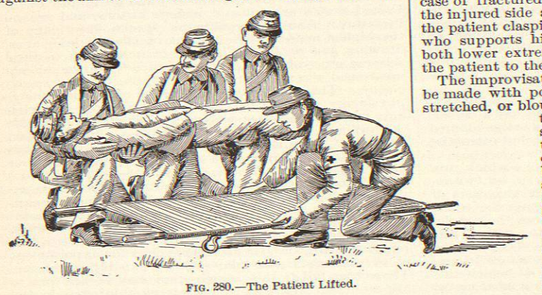

FIG. 280.—The Patient Lifted.

then assists the others to lower the patient to the litter. To execute this manœuvre properly, the bearer nearest the patient's head should take his position rather above the shoulder. The tendency as observed in drill is for this bearer to stand opposite the middle of the humerus, from which position he can neither properly support the patient's head nor secure a firm hold upon the opposite axilla.

If the ground upon which the patient lies is uneven, or if for any other reason the litter cannot be placed under him, the bearers rise and advance with short steps to the litter, upon reaching which the patient is first lowered to the knees of the bearers and then placed upon it.

If there are but three bearers, the patient, having been lifted by all three, is supported on the knees of two bearers while the bearer at the hips relinquishes his hold and procures the litter. This forms a much less secure support, and in severe cases it is generally better to carry the patient to the litter by three bearers rather than the litter to the patient.

FIG. 281.—Patient across Back.

Another method for three bearers, when it is necessary to carry the patient to the litter, is as follows: Two bearers take their positions on the same side opposite the knee and hip, while the third stands by the opposite hip. The two bearers at the hips then stoop and, raising the patient to a sitting position, place each one hand and arm around the back and interlock the fingers of the other hand, palms up, under the upper part of the thighs. The patient, if able, clasps his arms around their necks. The third bearer supports the lower extremities with both arms passed under them, one above, the other below the knee.

The same method may be used with only two bearers, in which case the legs must remain unsupported. In case of fractured lower extremity, two bearers kneel on the injured side and raise the patient upon their knees, the patient clasping his arms around the neck of the man who supports his body, the second bearer supporting both lower extremities; the bearers then rise and carry the patient to the litter.

The improvisation of litters is also taught. They may be made with poles over which sacks or bed ticks are stretched, or blouses or overcoats may be buttoned over the poles, which are passed through the sleeves of the garments. The bottom of the litter may be made by crossed ropes or strips of rawhide covered with a blanket or with straw or twigs. Or a passable litter may be made by rolling two rifles in a blanket. In the absence of a litter two methods of removing the wounded by two bearers are taught. In the first, which is known as the two-handed seat, the bearers take positions facing each other on the right and left of the patient near his hips. After raising the patient to a sitting posture, the bearers pass each one hand and arm around his back while their other hands are passed under the thighs, palms up and the fingers interlocked. In marching the bearers break step. In the second method in which the patient is carried by the extremities, one bearer clasps the patient from behind around the body under the arms, while the other bearer standing between the patient's legs supports them by passing his hands from the outside under the flexed knees. It is not generally advis-

able that one bearer should attempt to carry a patient unaided, but emergencies may arise in which this is necessary. For short distances a patient may be carried in the arms of a strong man, or one that is conscious and able to help himself to a certain extent may be carried astride of the bearer's back.

For unconscious patients two methods may be employed: carrying across the back and across the shoulder. For the first method, the bearer, turning the patient on his face, steps astride of him, facing toward the head, and with hands in his armpits lifts him to his knees, then clasping hands over the abdomen, lifts him to his feet; he then with the left hand seizes the patient by the left wrist and drawing the left arm about his (the bearer's) neck holds it against his left chest, the patient's left side resting against his body, and supports him with his right arm about the waist.

The bearer with his left hand next seizes the right wrist of the patient and draws the arm over his head and down upon his left shoulder, then shifting himself in front, stoops and clasps the right thigh with his right arm passed between the legs, his right hand seizing the patient's right wrist; lastly, he, with his left hand, grasps the patient's left and steadies it against his side, when he rises (Fig. 281).

FIG. 282.—Patient across Shoulder.

In the second method, the patient being raised and supported in the erect position as in the first method, the bearer clasps his hands about the patient's waist, shifts himself to the front, facing him, and stooping places his right shoulder against the abdomen; he passes his right hand and arm between the thighs—securing the right thigh—and with his left grasps patient's right hand, bringing it from behind under his (bearer's) left armpit, when, the wrist being firmly grasped by his right hand, he rises (Fig. 282).

The first method is more comfortable for the patient, but the second method has the great advantage that the bearer's left hand is free so that he can descend a ladder. It is in fact a fireman's method, and is much better adapted for carrying a patient who is asphyxiated, but otherwise uninjured, than a wounded man.

The ambulance is a four-wheeled vehicle, which provides transportation for eight men sitting or for two recumbent. In some ambulances there are two tiers of litters so that four recumbent patients may be transported. In the more approved ambulances, the regulation litter is used, the litter upon which the patient was originally placed being pushed into the body of the vehicle from the rear. A variety of styles is now in use, and since a board is sitting at the time at which this article is written for the purpose of deciding what model shall be finally adopted, no attempt will be made to describe in detail the present vehicles.

For a full account of the drill of the hospital corps the reader is referred to the manual of drill entitled "Drill Regulations for the Hospital Corps, United States Army," edition of 1900.

The methods which are practically employed in the transportation of the wounded are described in the article upon that subject. *George E. Bushnell.*

ARMY MEDICAL DEPARTMENT.—Admission to the medical corps of the United States army is by competitive examination. Any medical graduate of a college in good standing may appear for examination, provided he is a citizen of the United States, between twenty-two and twenty-nine years of age, and of sound health and good character. He must present evidence that he has had at least one year's hospital experience or the equivalent of this in practice subsequent to his graduation. The applicant should write to the Secretary of War requesting authority to present himself before an examining board, giving the date and place of his birth and the place and State of which he is a permanent resident, and enclosing certificates as to his citizenship, character, and habits from at least two reputable persons. He will then be informed when and where the examination will probably take place. Examining boards are convened from time to time to fill vacancies as they occur. For some years before the Spanish-American war a board was in session annually in September and October, in the Army Medical Museum building at Washington, D. C., to fill the vacancies occasioned by deaths, retirements, or resignations during the year. Boards may, however, be convened in other cities. One has now (February, 1900) been appointed to meet in Manila, Philippine Islands, to afford an opportunity of entering the regular service to volunteer medical officers and physicians on contract now serving with troops in those islands. When a board is convened in the United States, due notice is published in the medical journals, and candidates whose applications are already on file in the War Department are notified by letter to report in person to the president of the board on a given date. The expenses of travel and other personal expenses incident to the period occupied by the examination must be borne by the candidate.

The physical examination comes first in order, and is as carefully made as if the candidates were applicants for enlistment in the ranks. Those who fall below sixty-four inches in height are rejected. Each candidate is required to certify that he labors under no mental or physical infirmity or disability which can interfere with the efficient discharge of any duty which he may be required to perform. Slight errors of refraction which can be corrected by glasses and which are unaccompanied by ocular disease do not cause rejection. The preliminary or mental examination is conducted by questions written and oral on arithmetic and physics, the history and geography of the United States, ancient and modern history, and general literature. Candidates claiming special knowledge of the higher mathematics, ancient or modern languages, drawing, analytical chemistry, or branches of the natural sciences are examined in these subjects as accomplishments and receive due credit according to their proficiency. The professional examination includes anatomy, physiology, chemistry, hygiene, pathology, and bacteriology, materia medica and therapeutics, surgery, practice of medicine, obstetrics and the diseases of women and children. Examinations are also conducted at the bedside in clinical medicine and surgery, and demonstrations and operations on the cadaver are required to be made by the candidates. At the conclusion of the examination, which lasts six or eight days, the merits of the candidates in each of the branches and their relative merit as determined by the results of the whole examination are reported by the board, and in accordance with this report the surgeon-general recommends the appointment of the successful candidates to fill existing vacancies. Those who fail at this examination may be allowed to appear again after one year, but no third trial is permitted.

Ordinarily the first duty required of the young medical officer is attendance at the army medical school during a session of five months, November to March, to fit him for his future duties and responsibilities. The school was organized in 1893 by Surgeon-General Sternberg. The faculty consists of: (1) A president who is responsible for the discipline of the school and who delivers a course of lectures upon the duties of medical officers in war and peace, including the requirements of Army Regulations regarding property responsibilities, recruits, discharges for disability, sick reports, rights and privileges of officers and customs of the service; (2) a professor of military surgery who teaches operative surgery, the care and transportation of wounded in time of war, and the administration of hospitals; (3) a professor of military hygiene who gives practical instruction in the examination of air, water, food, and clothing from the sanitary point of view; (4) a professor of military medicine; (5) a professor of clinical and sanitary microscopy who gives laboratory instruction in bacteriological work, and (6) an instructor in hospital corps drill and company management.

After graduating at this school the young medical officer is assigned to duty at some military station. His rank, pay, and emoluments are those of a first lieutenant of cavalry for the first five years of his service and of a captain of cavalry for the remaining years of his service in the grade of assistant surgeon. In addition to the fixed pay of his rank he is entitled to an increase of ten per cent. for every completed period of five years' service until a maximum of forty per cent. has been reached. Thus the pay of a newly commissioned assistant surgeon is $1,600 per year, or $133.33 monthly. At the end of five years he is promoted to the rank of captain and receives $2,000 per year, but as he is entitled to a ten per-cent. increase of this by virtue of his five years of service he receives $2,200 per annum, or $183.33 monthly. At the end of ten years the service percentage entitles him to $2,400 per annum and after five years more to $2,600. By this time deaths, resignations, and retirements among those above him will have brought him up toward the head of the list of assistant surgeons. On his promotion to the grade of surgeon with the rank of major, the pay of which rank is $2,500 per annum, he receives $2,250 if he has been fifteen years in the service and $3,500 if he has completed twenty years of service. The monthly pay of the lieutenant-colonel, colonel, and brigadier-general is respectively, $333.33, $375, and $458.33. These sums include the forty per cent. increase for length of service.

At the present time the medical corps consists of one surgeon general with the rank of brigadier-general, six assistant surgeons-general with the rank of colonel, ten deputy surgeons-general with the rank of lieutenant-colonel, fifty surgeons with the rank of major, and one hundred and twenty-five assistant surgeons with the rank of captain or lieutenant, according to their length of service. When an officer reaches the age of sixty-four years he passes from the active to the retired list, and each of those formerly below him on the active list gains a step upward in lineal rank toward the next grade. Retired pay is seventy-five per cent. of the pay received by officers of the same rank on the active list.

Medical officers in addition to their pay proper are furnished with an allowance of quarters according to rank either in kind or by commutation if there is no suitable government building available. When travelling on duty without troops an allowance of four cents per mile is provided, with reimbursement of money actually expended for railroad or other fare. In changing station, transportation is provided also for professional books and papers and for a reasonable allowance of baggage. Forage, stabling, and transportation for two horses are allowed to each officer. Groceries and other articles may be purchased from the subsistence department and fuel from the quartermaster's department at about cost price.

The hospital at every permanent military post is well provided with books, instruments, and apparatus for chemical and bacteriological work.

The stations of medical officers are changed every two or three years or according to the requirements of the service. The surgeon-general, in making assignments, considers the record of each officer so that no undue share of arduous duty or service at stations remote from the United States shall fall to any one officer.

Leave of absence on full pay is allowed at the rate of one month per year, and this when not taken during the year may be allowed to accumulate to a maximum of four months, which at the end of four or more years may be utilized as one continuous leave. Absence from duty on account of sickness does not involve loss of pay. Permanent disability incurred in the line of duty entitles an officer to be placed on the retired list.

Toward the end of his fifth year of service and prior to his promotion to the rank of captain the young medical officer is examined on his knowledge of Army Regulations, and the practical work, medical, surgical, sanitary, and official, involved in serving with troops. Again, when medical officers with the rank of captain approach the head of the list of officers of their grade they are usually assigned to duty as attending surgeons and examiners of recruits in the principal medical centres of the United States to enable them to become familiar with the practice of the leading physicians and surgeons and to attend medical lectures, meetings of medical societies, etc. These assignments are made for one year only in order that as many medical officers as possible may be enabled to avail themselves of the advantages thereby afforded. An examination follows to test their knowledge of the advances made in medicine and surgery during the years which have elapsed since their promotion to the rank of captain. Surgeons and officers of higher grade are not subjected to examination for promotion.

A brief *résumé* of the history of the army medical department finds an appropriate place in this article. The army of the Revolution had at first only regimental surgeons and their mates or assistants. The Provincial Congress of Massachusetts Bay required each candidate for a position in the medical department of the army to be subjected to a close examination by qualified medical men; and there was nothing *pro forma* in these examinations, for it is on record that no less than six of a set of fourteen were rejected on account of failure to come up to the standard. This system of examination for appointment has continued throughout the intervening years and is in force at the present time. After the fight at Breed's Hill a general hospital was established at Cambridge for the care of the wounded. Subsequently, general hospitals were established at Ticonderoga, N. Y., and at Williamsburg, Va. To provide these with the requisite medical officers, surgeons were appointed who belonged to no regiment, but to the hospital department in general as staff surgeons. This arrangement aroused a strong feeling on the part of the regimental surgeons, who protested against the removal of their sick and their reduction to the level of dispensary surgeons for the slighter ailments of camp. They claimed the right to take care of their own sick, and they were supported in this by a majority of the regimental and company officers. It is interesting to observe how mankind forgets its experiences. More than one hundred and twenty years afterward, during the Spanish-American war, the same clamor was raised by regimental surgeons of volunteers, their colonels and company officers, against the establishment of division hospitals and the necessary disestablishment of regimental hospitals as incompetent to meet the exigencies of active field service, although this incompetency had meanwhile been proved during the long years of the civil war.

To allay the jealousies between the two sets of officers, a bill was passed for the establishment of a medical department based on the organization of the British service. It provided for so many officers with high-sounding titles that General Washington is reported to have criticised the proposition thus: "The number of officers mentioned in the enclosed plan, I presume, are necessary for us because they are found so in the British hospitals." Experience during the remaining years of the war of the Revolution simplified the organization by removing many of the high-titled functionaries; and there seems no reason to doubt that had a little longer time been given, the establishment would have been resolved into a corps of medical officers taking rank each by seniority in his grade and assigned to duty in accordance with his rank.